

IN THE CLAIMS

1. (Currently amended) A guidewire for penetrating into a vessel, comprising:
 - (a) an elongated wire assembly capable of being guided to a designated region of a vessel within a patient's body, the elongated wire assembly comprising
 - an elongated member including a lumen disposed along a segment of the elongated member, and
 - an opening in the elongated member, the opening positioned so that the lumen is in fluid communication with the vessel; and
 - (b) a sensor positioned within the lumen of the elongated member so that the sensor is in fluid communication with the vessel through the opening, the sensor being capable of measuring the level of nitric oxide or superoxide molecules in the vessel of the patient's body, wherein the sensor is capable of being moved independently of a distal end of the elongated member for adjusting the position of the sensor relative to the distal end, and wherein the sensor comprises an electrically conductive substrate having an amperometric response that is substantially unaffected by the presence of nitric oxide or superoxide, and a coating capable of reacting with nitric oxide or superoxide so as to cause a change in the electrochemical potential of the nitric oxide or superoxide.
2. (Original) The guidewire of Claim 1, wherein the elongated wire assembly is configured to allow a catheter assembly to be slidably disposed over at least a portion thereof.
3. (Previously presented) The guidewire of Claim 1, wherein the elongated wire assembly comprises a proximal section and a distal section, wherein the distal section is more flexible than the proximal section.
4. (Canceled)

5. (Canceled)
6. (Canceled)
7. (Original) The guidewire of Claim 1, wherein the sensor comprises a catalytic material capable of oxidizing nitric oxide or superoxide.
8. (Currently amended) A method for measuring the level of nitric oxide or superoxide in a vessel, comprising:
 - (a) positioning an elongated wire assembly into a vessel, the wire assembly including an elongated member including a lumen disposed along a segment of the elongated member, an opening in the elongated member, the opening positioned so that the lumen is in fluid communication with the vessel, and a sensor positioned within the lumen of the elongated member so that the sensor is in fluid communication with the vessel through the opening, the sensor being capable of measuring the level of nitric oxide or superoxide in the vessel, wherein the sensor is capable of being moved independently of a distal end of the elongated member for adjusting the position of the sensor relative to the distal end, and wherein the sensor comprises an electrically conductive substrate having an amperometric response that is substantially unaffected by the presence of nitric oxide or superoxide, and a coating capable of reacting with nitric oxide or superoxide so as to cause a change in the electrochemical potential of the nitric oxide or superoxide;
 - (b) guiding the wire assembly to a designated region within the vessel;
 - (c) allowing a body fluid to enter the lumen through the opening in the elongated member so that the body fluid is in contact with the sensor; and

(d) measuring the level of nitric oxide or superoxide of the body fluid in contact with the sensor.

9. (Original) The method of Claim 8, wherein the vessel is a blood vessel.
10. (Currently amended) The method of Claim 8, further comprising inserting a catheter over the wire assembly to treat ~~the~~ a region of the vessel.
11. (Original) The method of Claim 8, additionally including delivering a stimulant to increase the production of nitric oxide or superoxide.
12. (Original) The method of claim 11, wherein the stimulant comprises acetylcholine.
13. (Canceled)
14. (Canceled)
15. (Original) The method of Claim 8, wherein the sensor comprises a catalytic material capable of oxidizing nitric oxide or superoxide.
16. (Previously presented) The method of Claim 8, wherein the designated region within the vessel is affected by thrombosis or restenosis.
17. (Currently amended) The guidewire of Claim 1, wherein the sensor includes a sensor tip capable of ~~independently~~ bending away from a central longitudinal axis of the distal end of the elongated member.
18. (Currently amended) The method of Claim 8, wherein the sensor includes a sensor tip capable of ~~independently~~ bending away from a central longitudinal axis of the distal end of the elongated member.
19. (Canceled)

20. (Previously presented) The guidewire of Claim 1, wherein the sensor is slideable along a longitudinal axis of the distal end of the elongated member.

21. (Previously presented) The guidewire of Claim 1, wherein the sensor is rotatable about a central longitudinal axis of the sensor.

22. (Previously presented) The method of Claim 8, wherein the sensor is slideable along a longitudinal axis of the distal end of the elongated member.

23. (Previously presented) The method of Claim 8, wherein the sensor is rotatable about a central longitudinal axis of the sensor.

24. (Canceled)

25. (Canceled)

26. (Canceled)

27. (Canceled)

28. (Canceled)

29. (Canceled)

30. (Canceled)

31. (Canceled)

32. (Canceled)